



# More Targets, Better Results

Multiplex Real-time PCR Assays

[siemens-healthineers.com/molecular/ftd-ruo-assays](http://siemens-healthineers.com/molecular/ftd-ruo-assays)

Infectious  
Disease  
Research

**SIEMENS**  
**Healthineers** :::

# Multiplex RT-PCR Assays for Infectious Disease and Pathogen Research

## Challenge: Consolidating research activities for pathogens associated with related infectious diseases

Infectious diseases are caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi; the diseases can be spread, directly or indirectly, from one person to another.

Identification of these infectious agents is important, especially for epidemiological studies around outbreaks and during early phase therapeutic development programs. Research in molecular laboratories may be impacted by laboratory staffing and training issues, the use of multiple, non-standardized assays, and having to deal with numerous vendors. These challenges may be further compounded by the need for different protocols and PCR cycling profiles for a variety of pathogens.

## Solution: Fast Track Diagnostics Multiplex Real-time PCR Assays

PCR assays for the identification of pathogens associated with a variety of infectious diseases such as: respiratory infections, gastroenteritis, sexually transmitted infections, childhood infections, meningitis, eye infections, immunosuppression, hepatitis, and tropical fever.

### Optimized research activities

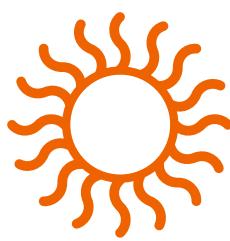
- Single kits that group relevant pathogens into a multiplexed panel.
- Faster pathogen identification and results.



Respiratory Infections



Gastroenteritis



Sexually Transmitted Infections



Fever, Rash,  
Childhood  
Infections



Eye Infections

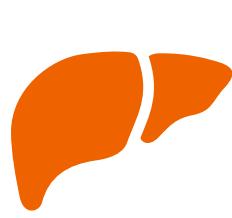
#### **Greater efficiency and productivity**

- Simultaneous identification of pathogens using one kit.

#### **Lower costs**

- Panels enable the research of multiple pathogens at once, saving time and resources.
- A single sample and test covers a variety of pathogens—viruses, bacteria, fungi, or parasites—at the same time, in one run.

**One-step multiplex real-time PCR kits for the simultaneous identification of viruses, bacteria, fungi, or parasites.**



Hepatitis



Infections of the  
Immunosuppressed



Meningitis



Tropical Fever

# Research Use Only (RUO) Kits\*



## Respiratory Infections

	Respiratory pathogens 21	Respiratory pathogens 21 plus	Respiratory pathogens 33	FLU	Multiplex
<i>Bordetella</i> spp. <sup>†</sup>			●		
<i>Bordetella parapertussis</i>					
<i>Bordetella pertussis</i>					
<i>Chlamydophila pneumoniae</i>		●	●		
Enterovirus	●	●	●		
<i>Haemophilus influenzae</i>			●		
<i>Haemophilus influenzae</i> B		●	●		
Human adenovirus	●	●	●		
Human bocavirus	●	●	●		
Human coronavirus 229E	●	●	●		
Human coronavirus HKU1	●	●	●		
Human coronavirus NL63	●	●	●		
Human coronavirus OC43	●	●	●		
Human metapneumoviruses A/B	●	●	●		
Human parainfluenza virus 1	●	●	●		
Human parainfluenza virus 2	●	●	●		
Human parainfluenza virus 3	●	●	●		
Human parainfluenza virus 4	●	●	●		
Human parechovirus	●	●	●		
Human respiratory syncytial viruses A/B	●	●	●		●
Human rhinovirus	●	●	●		
Influenza A virus	●	●	●	●	●
Influenza A(H1N1) virus (swine-lineage)	●	●	●	●	
Influenza A(H3) virus					
Influenza A(H5) virus					
Influenza A(H7) virus					
Influenza B virus	●	●	●	●	●
Influenza C virus			●		
<i>Klebsiella pneumoniae</i>			●		
<i>Legionella pneumophila/longbeachae</i>			●		
MERS-CoV					
<i>Moraxella catarrhalis</i>			●		
<i>Mycoplasma pneumoniae</i>	●	●	●		
<i>Pneumocystis jirovecii</i>			●		
<i>Salmonella</i> spp.			●		
<i>Staphylococcus aureus</i>		●	●		
<i>Streptococcus pneumoniae</i>		●	●		

\*Product availability may vary from country to country and is subject to varying regulatory requirements. RUO assays shall not be used for clinical or diagnostic use.

<sup>†</sup>Except *Bordetella parapertussis*.

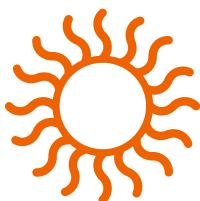


## Research Use Only (RUO) Kits\*



### Gastroenteritis

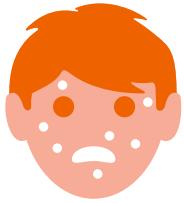
	Multiplex			
	Viral gastroenteritis	Bacterial gastroenteritis	EPA	Stool parasites
<i>Campylobacter coli/jejuni/lari</i>		●		
<i>Clostridium difficile</i>		●		
<i>Cryptosporidium</i>				●
<i>Entamoeba histolytica</i>				●
Enterovirus			●	
<i>Giardia lamblia</i>				●
Human adenovirus	●		●	
Human astrovirus	●			
Human parechovirus			●	
Norovirus GI	●			
Norovirus GII	●			
Rotavirus	●			
<i>Salmonella</i> spp.		●		
Sapovirus	●			
<i>Shigella</i> spp.		●		
Verocytotoxin-producing <i>E. coli</i>		●		
<i>Yersinia enterocolitica</i>		●		



### Sexually Transmitted Infections

	Multiplex				
	Urethritis basic	Urethritis plus	STD9	Genital ulcer	Gonorrhoea confirmation
<i>Chlamydia trachomatis</i>	●	●	●		
<i>Gardnerella vaginalis</i>			●		
Herpes simplex virus 1			●	●	
Herpes simplex virus 2			●	●	
<i>Mycoplasma genitalium</i>	●	●	●		
<i>Mycoplasma hominis</i>		●			
<i>Neisseria gonorrhoeae</i>	●	●	●		
<i>Neisseria gonorrhoeae</i> (2 targets)					●
<i>Treponema pallidum</i>				●	
<i>Trichomonas vaginalis</i>		●	●		
<i>Ureaplasma parvum</i>		●	●		
<i>Ureaplasma urealyticum</i>		●	●		

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## Fever, Rash, Childhood Infections

	Multiplex				Singleplex
	Vesicular rash	Fever and rash	EPA	Dermatophytes	
Enterovirus		●	●		
Herpes simplex virus 1	●				
Herpes simplex virus 2	●				
Human adenovirus			●		
Human herpesvirus 6		●			
Human herpesvirus 7		●			
Human parechovirus			●		
Human parvovirus B19		●			
Measles virus		●			●
<i>Microsporum audouinii/canis/ferrugineum</i>				●	
<i>Trichophyton mentagrophytes complex</i>				●	
<i>Trichophyton rubrum complex</i>				●	
<i>Trichophyton tonsurans/ equinum</i>				●	
Varicella zoster virus	●				

## Research Use Only (RUO) Kits\*



### Eye Infections

	Multiplex
	Eye
<i>Chlamydia trachomatis</i>	●
Herpes simplex virus 1	●
Herpes simplex virus 2	●
Human adenovirus	●
Varicella zoster virus	●



### Hepatitis

	Singleplex
	Hepatitis E RNA
Hepatitis E virus	●



### Infections of the Immunosuppressed

	Multiplex	Singleplex
	ACE	BKV
BK virus		●
Epstein-Barr virus	●	
Human adenovirus	●	
Human cytomegalovirus	●	

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Multiplex real-time PCR kits  
available for the accurate and rapid  
identification of pathogens



## Meningitis

	Multiplex		
	Bacterial meningitis	Neuro 9	Viral meningitis
Enterovirus		●	●
Epstein-Barr virus		●	
<i>Haemophilus influenzae</i>	●		
Herpes simplex virus 1		●	●
Herpes simplex virus 2		●	●
Human adenovirus		●	
Human cytomegalovirus		●	
Human herpesvirus 6		●	
Human herpesvirus 7		●	
Human parechovirus		●	●
Human parvovirus B19		●	
Mumps virus			●
<i>Neisseria meningitidis</i>	●		
<i>Streptococcus pneumoniae</i>	●		
Varicella zoster virus		●	●

## Research Use Only (RUO) Kits\*



### Tropical Fever

	Multiplex				
	Tropical fever core	Dengue/Chik	Zika/Dengue/Chik	Dengue differentiation	Malaria differentiation
Chikungunya virus	●	●	●		
Dengue virus	●	●	●		
Dengue virus 1				●	
Dengue virus 2				●	
Dengue virus 3				●	
Dengue virus 4				●	
<i>Leptospira</i> spp.	●				
<i>Plasmodium</i> spp.	●				
<i>Plasmodium falciparum</i>					●
<i>Plasmodium malariae</i>					●
<i>Plasmodium ovale</i>					●
<i>Plasmodium vivax</i>					●
<i>Rickettsia</i> spp.	●				
<i>Salmonella</i> spp.	●				
West Nile virus	●				
Zika virus			●		

### Multiplex real-time PCR kits for optimized research

Conventional singleplex RT-PCR, with a single pair of primers that can detect only one target genome at a time, may be expensive and time-consuming. With multiplex real-time PCR technology, research laboratories can test for a variety of associated pathogens—viruses, bacteria, fungi, and/or parasites—using a single sample and a single test. Accurate results are generated rapidly and in a cost-effective manner.

From singleplex to multiplex real-time PCR tests, Siemens Healthineers has the research tools you need for your research.

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SMN	Description	Number reactions/kit	SMN	Description	Number reactions/kit
11373921	FTD ACE (RUO)	32	11373969	FTD Bacterial pneumonia CAP (RUO)	32
11373922		64	11373970		64
11373923	FTD Respiratory pathogens 21 Plus (RUO)	32	11373974	FTD Bordetella (RUO)	64
11373924		64	11373978	FTD Urethritis basic (RUO)	64
11373925	FTD Respiratory pathogens 33 (RUO)	32	11373983	FTD Tropical fever core (RUO)	32
11373926		64	11373984		64
11373927	FTD Respiratory pathogens 21 (RUO)	32	11373992	FTD Malaria differentiation (RUO)	64
11373928		64	11373993	FTD Urethritis plus (RUO)	32
11373929	FTD Viral gastroenteritis (RUO)	32	11373994		64
11373930		64	11373996	FTD Dengue/Chik (RUO)	64
11373936	FTD Vesicular rash (RUO)	64	11373998	FTD Dengue differentiation (RUO)	64
11373941	FTD Fever and rash (RUO)	32	11374001	FTD Measles (RUO)	32
11373942		64	11374002		64
11373945	FTD Viral meningitis (RUO)	32	11374003	FTD FLU/HRSV (RUO)	32
11373946		64	11374004		64
11373947	FTD Bacterial gastroenteritis (RUO)	32	11374006	FTD Mers-CoV (RUO)	64
11373948		64	11374007	FTD STD9 (RUO)	32
11373950	FTD Eye (RUO)	64	11374008		64
11373954	FTD Gonorrhoea confirmation (RUO)	64	11374010	FTD Atypical CAP (RUO)	64
11373956	FTD Genital ulcer (RUO)	64	11374014	FTD BKV (RUO)	64
11373957	FTD Stool parasites (RUO)	32	11374016	FTD hCoV (RUO)	64
11373958		64	11374019	FTD Neuro 9 (RUO)	32
11373959	FTD FLU (RUO)	32	11374020		64
11373960		64	11374021	FTD Flu differentiation (RUO)	32
11373962	FTD EPA (RUO)	64	11374022		64
11373965	FTD Pneumocystis jirovecii (RUO)	32	11374030	FTD Hepatitis E RNA (RUO)	64
11373966		64	11374049	FTD Zika/Dengue/Chik (RUO)	32
11373967	FTD Bacterial meningitis (RUO)	32	11374050		64
11373968		64	11416318	FTD Dermatophytes (RUO)	64

At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey toward expanding precision medicine, transforming care delivery, and improving patient experience, all made possible by digitalizing healthcare.

An estimated 5 million patients globally benefit every day from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics, and molecular medicine, as well as digital health and enterprise services.

We are a leading medical technology company with over 120 years of experience and 18,000 patents globally. Through the dedication of more than 50,000 colleagues in 75 countries, we will continue to innovate and shape the future of healthcare.

The Fast Track Diagnostics assays listed in this brochure are for research use only (RUO), and are not for human clinical or diagnostic use. Product availability may vary from country to country and is subject to varying regulatory requirements. Please contact your local representative for availability.



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